Abstract

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Diploma thesis

Conjugates of oligonucleotides with photodynamic or fluorescence quenching azaphthalocyanine molecules

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This thesis deals with possibilities of creating conjugates of oligonucleotides with photodynamic or fluorescence quenching azaphthalocyanine molecules.

We created this conjugates by using Copper (I)-catalyzed Huisgen 1,3-dipolar cycloadditions of terminal alkynes and azides which is the most often used method of click chemistry. Oligonucleotides on solid phase with sequence of 25T modified by hexynyl were utilized during this reaction. These oligonucleotides on solid phase reacted with P14-1Zn dye with CuI as catalyst and THF (DMSO) as a solvent. Products of this reaction were characterized by UV-VIS spectrophotometer and MALDI-TOF analysis.

Others procedures which were made within our thesis, turn out to be unsuccessful. The problem was that the dye did not conjugate to oligonucleotides on solid phase.